AMENDMENTS TO THE CLAIMS

1.   (Previously Presented) A method for discharging fluid, comprising:

feeding fluid from a fluid supply device to a gap formed by two opposing surfaces of two members, while keeping the two members moving relative to each other along a gap direction of the gap;

intermittently discharging the fluid by utilizing a pressure change made by changing the gap, and controlling a fluid discharge amount per dot depending on pressure and flow rate characteristics of the fluid supply device; and

setting the gap to have a minimum value h_0 such that the intermittent discharging is performed while $h_0 > h_x$, wherein:

an intermittent discharge amount per dot is generally proportional to the minimum value h_0 when h_0 is set in the range of $0 < h_0 < h_x$,

the intermittent discharge amount per dot is generally constant independent of the minimum value h_0 when $h_0 > h_x$,

the intermittent discharge amount per dot relative to h_0 is represented by a curved line when h_0 is set in the range of $0 < h_0 < h_x$, and a first straight line is tangent to the curved line at a portion near $h_0 = 0$,

the intermittent discharge amount per dot is generally constant and represented by a second straight line when $h_0 > h_x$, and

an intersection between the first straight line and the second straight line is defined as $h_0 = h_x$,

2.   (Previously Presented) The method for discharging fluid according to Claim 1, further comprising:

setting the pressure and flow rate characteristics of the fluid supply device by changing a number of rotations of the fluid supply device.

3.   (Cancelled)

4. (Previously Presented) The method for discharging fluid according to Claim 1, wherein a fluid pressure generated in inverse proportion to a size of the gap between the opposing surfaces of the two members and in proportion to a rate at which the size of the gap changes is a primary squeeze pressure,

a fluid pressure generated in proportion to the rate at which the size of the gap changes and in proportion to an internal resistance of the fluid supply device is a secondary squeeze pressure, and

the intermittent discharge is performed by action of the secondary squeeze pressure with h_0 set to a range of $h_0 > h_x$.

5. (Previously Presented) The method for discharging fluid according to Claim 1, wherein assuming that a fluid pressure generated in inverse proportion to a size of the gap between the opposing surfaces of the two members and in proportion to time differential of the gap is a primary squeeze pressure, and that a fluid pressure generated in proportion to the time differential of the gap and in proportion to an internal resistance of the fluid supply device is a secondary squeeze pressure, and further that a minimum value or a mean value of the gap is h_0, the intermittent discharge is performed with the gap h_0 set to a value of $h_0 \approx h_x$ or to a range of $0 < h_0 < h_x$, where a setting range of the gap h_0 over which an intermittent discharge amount per dot is generally proportional to the gap h_0 is $0 < h_0 < h_x$, and where a setting range of the gap h_0 over which the intermittent discharge amount is generally constant independent of the gap h_0 is $h_0 > h_x$, and where h_x is an intersection point between an envelope of the intermittent discharge amount per dot relative to h_0 in a region $0 < h_0 < h_x$, and a value of a portion of the region $h_0 > h_x$ over which the intermittent discharge amount per dot is generally constant independent of h_0.

6. (Cancelled)

7.   (Previously Presented) The method for discharging fluid according to Claim 1, wherein a fluid internal resistance of the fluid supply device is R_s (kgsec/mm^5), a radial fluid internal resistance of the opposing surfaces of the relatively moving two members that depends on the gap h_0 of the opposing surfaces of the two members is R_p (kgsec/mm^5), a fluid resistance of the discharge port is R_n (kgsec/mm^5), and if a function ϕ is defined as

$$\phi = \frac{1}{R_n + R_p + R_S} \qquad ,$$

then h_x is a value of an intersection point between an envelope of a curve ϕ relative to h in a region $0 < h < h_x$, and a portion of the region $h_0 > h_x$ over which the curve ϕ is independent of h_0 and generally constant.

8.   (Previously Presented) The method for discharging fluid according to Claim 1, wherein if a maximum value of time differential of the gap is V_{max}, a mean radius of outer peripheries of the two members is r_0 (mm), a mean radius of a discharge opening for connecting the gap and outside of the device is r_i (mm), and if a maximum flow rate of the fluid supply device is Q_{max}, then

$$Q_{max} < \pi (r_0^2 - r_i^2) v_{max} \; .$$

9.   (Previously Presented) The method for discharging fluid according to Claim 1, wherein the feeding of fluid to the gap includes supplying fluid through branches to a plurality of sets of the two members that are relatively moved to each other along a gap direction, wherein each set of the two members includes an independent axial direction drive device.

10.   (Previously Presented) The method for discharging fluid according to Claim 9, wherein each discharge amount is controlled by setting the gap between opposing surfaces of respective two members to a proximity to $h_0 \approx h_x$ or to a range of $0 < h_0 < h_x$.

11. (Previously Presented) The method for discharging fluid according to Claim 1, wherein an equal discharge amount per dot of fluid is intermittently discharged for coating periodically at equal time intervals while discharge nozzles and a substrate are kept moving relative to each other by making use of a property that a coating-object surface of the substrate is geometrically symmetrical.

12. (Previously Presented) The method for discharging fluid according to Claim 11, wherein the coating-object surface is a surface of a display panel.

13. (Previously Presented) The method for discharging fluid according to Claim 1, wherein fluid is supplied to opposing surfaces of two members that are relatively moved to each other along a gap direction by a fluid supply device, and wherein given a gap h (mm) of the two opposing surfaces, time differential dh/dt of the gap h, a mean radius r_0 (mm) of outer peripheries of the two opposing surfaces, a mean radius r_i (mm) of a discharge opening for connecting the gap and outside, a viscosity coefficient μ (kgsec/mm^2) of the fluid, a fluid internal resistance R_s (kgsec/mm^5) of the fluid supply device, a radial fluid resistance R_P (kgsec/mm^5) of the two opposing surfaces, a fluid resistance R_n (kgsec/mm^5) of the discharge opening, a sum P_{s0} of a maximum pressure and a supply pressure of the fluid supply device, and given a frequency f (1/sec) of intermittent discharge, it holds that $P_{s0}+P_{squ10}+P_{squ20}<0$, where a primary squeeze pressure P_{squ1} and a secondary squeeze pressure P_{squ2} are defined as

$$P_{squ1} = -\frac{3\mu}{h^3}\frac{dh}{dt}\left\{(r_0^2 - r_i^2) + 2r_i^2 \ln\frac{r_i}{r_0}\right\}$$

$$P_{squ2} = -R_S \pi \frac{dh}{dt}(r_0^2 - r_i^2)$$

and where a primary squeeze pressure P_{squ1} and a secondary squeeze pressure P_{squ2} resulting when the time differential dh/dt of the gap h has a maximum value are $P_{squ1} = P_{squ10}$ and $P_{squ2} = P_{squ20}$, respectively.

14.   (Previously Presented) The method for discharging fluid according to Claim 1, wherein in an application process in which coating is performed as the discharge while a coating-object surface and a discharge nozzle for connecting to the gaps are being relatively moved to each other, given a displacement input signal Sh that gives the gap between the two opposing surfaces, relative positions of the coating-object surface and the discharge nozzle and a timing of the displacement input signal Sh are adjusted by taking into consideration that a phase of coating is advanced by generally $\Delta\theta=\pi/2$ over the displacement input signal Sh.

15.   (Previously Presented) The method for discharging fluid according to Claim 1, wherein the two members are relatively moved by an electro-magnetostriction element.

16.   (Previously Presented) The method for discharging fluid according to Claim 1, wherein an amplitude immediately before a halt of coating of the two members that are relatively moved to each other along the gap direction is larger than an amplitude of steady intermittent application.

17.   (Previously Presented) The method for discharging fluid according to Claim 1, wherein while a dispenser for discharging the fluid through the gap is being relatively moved to a substrate on which independent ribs each surrounded by a barrier rib are formed geometrically symmetrical, fluorescent-material paste is intermittently discharged so that the fluorescent-material paste is applied to interiors of the independent cells one by one, by which a fluorescent-material layer of a plasma display panel is formed.

18.   (Previously Presented) The method for discharging fluid according to Claim 17, wherein the fluorescent-material paste is flown from the discharge nozzle so as to be applied while a distance H between a crest of the barrier rib and a tip end portion of the discharge nozzle is maintained at 0.5 mm or more.

19.   (Previously Presented) The method for discharging fluid according to Claim 18, wherein the distance H is 1.0 mm or more.

20.   (Previously Presented) The method for discharging fluid according to Claim 1, wherein the two opposing surfaces of the two members that are relatively moved to each other along a gap direction by independent axial direction drive devices are provided in a plurality of sets, and the fluid is supplied by one set of fluid supply device in branches to gaps between these sets of two members, and wherein each discharge amount is controlled by a flow-rate compensation device which is provided on a flow passage that connects the fluid supply device and the two opposing surfaces of the relatively moving two members to each other and which is capable of changing a flow passage resistance.

21.   (Previously Presented) The method for discharging fluid according to Claim 1, further comprising: in a coating process of intermittent application performed while the gap between the opposing surfaces of the relatively moving two members is varied at an amplitude h_1, increasing the gap between the opposing surfaces of the two members at an amplitude h_2 larger than the amplitude h_1 to interrupt the discharge; and thereafter performing intermittent application a plurality of times at the amplitude h_1 so that a central value of the gap after the interruption becomes gradually equal to a central value of the gap immediately before the interruption.

22-37. (Cancelled)

38.   (Previously Presented) The method for discharging fluid according to Claim 1, wherein the minimum value h_0 of the gap is 0.05 mm.

39.   (New) The method for discharging fluid according to Claim 1, wherein assuming that a time at an end of an (n-1)th application from a start of an application is T_{n-1}, a time at a start of an n-th application is T_n, and a time interval is $\Delta T = T_n - T_{n-1}$, then an n-th application quantity per dot is controlled by setting a value of the ΔT.